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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte THOMAS BISCHOFBERGER, MARTIN BUCHSTAB,
and HANS IHLE

Appeal 2015-000894
Application 13/002,655
Technology Center 3700

Before WILLIAM A. CAPP, AMANDA F. WIEKER, and
ARTHUR M. PESLAK, *Administrative Patent Judges*.

CAPP, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants seek our review under 35 U.S.C. § 134 of the final rejection of claims 27–31, 33, 36–40, and 42–52. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

THE INVENTION

Appellants' invention relates to channel closure means for a defrost water channel of a refrigeration unit. Spec. ¶ 1. Claim 27, reproduced below, is illustrative of the subject matter on appeal.

27. A domestic refrigeration unit, comprising:
- a defrost water channel to direct a flow of condensed water collected from the refrigeration unit; and
 - a channel closure to temporarily close off the defrost water channel,
- wherein the channel closure is at least partially water-soluble, and
- wherein the channel closure is disposed in a vertical portion of the defrost water channel such that the flow of condensed water contacts an entire surface of the channel closure to completely dissolve the channel closure when the flow of condensed water reaches the channel closure.

THE REJECTIONS

The Examiner relies upon the following as evidence in support of the rejections:

Goetz	US 4,843,835	July 4, 1989
Chaves	US 5,644,925	July 8, 1997
Chang	US 5,720,183	Feb. 24, 1998
Suffa	US 2003/0071057 A1	Apr. 17, 2003
Cantolino	US 6,895,771 B1	May 24, 2005
Hiroshi	JP 10267507 A	Oct. 9, 1998

The following rejections are before us for review:

1. Claims 27–30, 33, 36–39, 45, 46, and 48–52 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hiroshi and Chaves.
2. Claims 44 and 47 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hiroshi, Chaves, and Cantolino.

3. Claim 31 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hiroshi, Chaves, and Chang.

4. Claim 40 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hiroshi, Chaves, and Goetz.

3. Claims 42 and 43 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hiroshi, Chaves, and Suffa.

OPINION

Unpatentability of Claims 27–30, 33, 36–39, 45, 46, and 48–52 over Hiroshi and Chaves

Claims 27–30, 33, 36–39, 45, 46, and 48–50

Appellants argue claims 27–30, 33, 36–39, 45, 46, and 48–50 as a group. Appeal Br. 7–9. We select claim 27 as representative. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2015).

The Examiner finds that Hiroshi discloses the invention as claimed, except for locating the closure in a vertical portion of the water channel. Final Action 2–3. The Examiner relies on Chaves as teaching a closure disposed in a vertical portion of a water channel. *Id.* at 3. The Examiner concludes that it would have been obvious to a person of ordinary skill in the art at the time of the invention to locate Hiroshi’s water soluble channel closure in a vertical portion as taught by Chaves. *Id.* According to the Examiner, a person of ordinary skill in the art would have done this to expedite contact of the closure means with the condensed water. *Id.*; *see also* Ans. 9.

Appellants traverse the Examiner’s rejection by arguing that Chaves teaches away from the proposed combination. Appeal Br. 7. Appellants

argue that Chaves is an alternative to a conventional U-shaped trap. *Id.* at 7–8.

In response, the Examiner points out that Hiroshi is relied on to teach all limitations except for locating the channel closure in a vertical section of a water channel. Ans. 7. The Examiner further states that Hiroshi is not limited to the location illustrated in its figures, but rather discloses that it may be located at other portions of the defrost water channel. *Id.* (citing Hiroshi ¶ 15).

Appellants’ teaching away argument is not persuasive. A reference does not teach away if it merely discloses an alternative invention but does not “criticize, discredit, or otherwise discourage” investigation into the invention claimed. *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004). Appellants have not directed us to any language in Chaves that criticizes, discredits, or otherwise discourages investigation into placing a channel closure in the vertical portion of a U-shaped trap.¹

Next, Appellants argue that the Examiner’s stated motivation to combine is not disclosed in the cited references. Appeal Br. 8.² This

¹ Although not explicitly relied on by the Examiner in the rejection of claim 27, we note that Cantolino locates float ball 26 in valve housing 62, located between second tubing 54 and P-trap 14. Cantolino, Figs. 2–4, 7, col. 6, ll. 17–22. Thus, it was known, at the time of the invention, to locate a channel closure in a vertical section of a U-shaped trap. In our view, Chaves is better understood as a mere alternative design, rather than as a teaching away, from the valve configuration disclosed in Cantolino.

² “Appellants respectfully submit that the reasoning provided in the Office Action for combining Hiroshi and Chaves is unsupported by the references.” *Id.* “Appellants believe that the reasoning provided by the Office Action is not disclosed in the prior art cited.” *Id.*

argument is without merit. The Supreme Court has dispelled any notion that the law requires the reason to combine to be disclosed in the applied art.

The diversity of inventive pursuits and of modern technology counsels against confining the obviousness analysis by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasizing the importance of published articles and the explicit content of issued patents.

KSR Int’l Co. v. Teleflex Inc., 550 U.S. 398, 402 (2007). Thus, it is well settled that a reason to modify a prior art reference may be found explicitly or implicitly in market forces; design incentives; the “interrelated teachings of multiple patents”; “any need or problem known in the field of endeavor at the time of invention and addressed by the patent”; and the background knowledge, creativity, and common sense of the person of ordinary skill. *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1328–29 (Fed. Cir. 2009) (quoting *KSR*, 550 U.S. at 418–21).

Here, the Examiner finds that disposing the channel closure in a vertical section facilitates contact of the water soluble closure means with water. Final Action 3, Ans. 8–9. This is a sufficient non-hindsight reason for a person of ordinary skill in the art to make the proposed combination.

In their reply, Appellants complain that the Examiner raised a new motivation to combine in the Answer. Reply Br. 5. We disagree. At most, the Examiner merely expounded upon the reason originally articulated in the final action. *Compare* Final Action 3, *with* Ans. 8–9. In any event, Appellants waived any “new grounds” argument by submitting a reply brief instead of petitioning the Director. *See* 37 C.F.R. § 41.40(a).

We have considered Appellants’ remaining arguments and find them to be without merit. In view of the foregoing discussion, we determine the Examiner’s findings of fact are supported by a preponderance of the

evidence and that the Examiner's legal conclusion of unpatentability is well-founded. Accordingly, we sustain the Examiner's unpatentability rejection of claims 27–30, 33, 36–39, 45, 46, and 48–50.

Claims 51 and 52

Appellants argue claims 51 and 52 together. Appeal Br. 9. We treat claim 51 as representative. Claim 51 depends from claim 27 and adds the limitation: “wherein the channel closure is positioned in the defrost water channel such that the flow of condensed water contacts the entire channel closure when the flow of condensed water reaches a predetermined height.” Claims App. The Examiner finds this limitation satisfied by Hiroshi. Final Action 5.

Appellants argue that Hiroshi does not meet the claim limitation because one part of the water-soluble sealing agent is contacted earlier than the rest. Appeal Br. 9. Appellants argue that Chaves does not disclose this feature because condensate will initially coalesce around the outer periphery of the spherical float. *Id.* at 10.

In response, the Examiner explains that the claim discusses what happens functionally as water is drained from the system. Ans. 9. The Examiner further explains that Hiroshi, as modified by Chaves, is capable of performing this functional limitation. *Id.* at 10. The Examiner further observes that claim 51 does not contain a temporal limitation as to when the “entire” channel closure must be contacted by the flow of water. *Id.*

The Examiner states the better position on this issue. When Hiroshi is modified so that its soluble channel closure is disposed in a vertical channel section, flowing water, under the force of gravity, will disperse across the upper surface of the channel closure.

The Examiner's position is supported by a preponderance of the evidence and, accordingly, we sustain the rejection of claims 51 and 52.

Unpatentability of Claims 31 and 40

Claims 31 and 40 depend, directly or indirectly, from claim 27. Claims App. Appellants do not argue for the separate patentability of these claims and, therefore, have waived the right to argue them. *See* 37 C.F.R. § 41.37(c)(1)(iv)(2015). We sustain the rejection of claims 31 and 40.

*Unpatentability of Claims 42 and 43
over Hiroshi, Chaves, and Suffa*

Appellants argue claims 42 and 43 together and we select claim 42 as representative. Appeal Br. 11–12. Claim 42 depends from claim 27 and adds the limitation: “wherein the channel closure comprises a water-soluble film that is drawn over an end face of a tube at an outlet end of the defrost water channel.” Claims App.

The Examiner finds that Hiroshi discloses channel closure means in the form of a water-soluble film. Final Action 6. The Examiner acknowledges that Hiroshi's water-soluble film is not drawn over the end face of a tube. *Id.* The Examiner relies on Suffa as disclosing a sealing film drawn over an end face. *Id.* (citing Suffa element 27 in Figure 1 and ¶ 26). The Examiner concludes that it would have been obvious to a person of ordinary skill in the art at the time the invention was made to form Hiroshi's film over the end face of an outlet tube. *Id.* According to the Examiner, a person of ordinary skill in the art would have done this to provide a more accessible surface to which the film can adhere. *Id.* at 6–7. Furthermore, the Examiner observes that it is “simply obvious” to fix the film to one of

the limited number of surfaces at the outlet end of the tube in order to obtain the predictable result of sealing the tube. *Id.* at 7.

Appellants argue that Suffa's film is not water-soluble, a point already conceded by the Examiner. Appeal Br. 11–12. Appellants also argue that Suffa is not analogous art. Neither argument is persuasive.

The Examiner's rejection is based on a combination where Hiroshi discloses a water-soluble film and Suffa discloses a location for placement of the film. Ans. 11. Thus, Appellants' argument that Suffa is not water-soluble is not responsive to the grounds of rejection. *See In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references); *In re Keller*, 642 F.2d 413, 425 (CCPA 1981).

With respect to the non-analogous art argument, a reference qualifies as prior art for an obviousness determination when it is analogous to the claimed invention. *Innovention Toys, LLC. v. MGA Ent., Inc.*, 637 F.3d 1314, 1321 (Fed. Cir. 2011). "Two separate tests define the scope of analogous art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved." *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004). The "field of endeavor" test asks if the structure and function of the prior art is such that it would be considered by a person of ordinary skill in the art because of similarity to the structure and function of the claimed invention as disclosed in the application. *Id.* at 1325–26. "A reference is reasonably pertinent if . . . it is

one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem.” *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992). “If a reference disclosure has the same purpose as the claimed invention, the reference relates to the same problem, and that fact supports use of that reference in an obviousness rejection.” *Id.* Whether a prior art reference is “analogous” is a question of fact. *Id.* at 658.

Suffa is analogous under at least the second prong of the two part test. Suffa shows that it was known to seal the end of a tube with a film. The need to seal, cover, or cap the end of a tube, pipe, or similar conduit is a common problem that has common solutions with broad application among the mechanical arts. Appellants’ arguments fail to convince us that merely placing an obstruction over the outlet end of a tube to inhibit the flow of a fluid rises to the level of a patentably non-obvious invention. “We find it not unreasonable in cases such as this, involving relatively simple everyday-type mechanical concepts, to permit inquiry into other areas where one of even limited technical skill would be aware that similar problems exist.” *In re Heldt*, 433 F.2d 808, 812 (CCPA 1970).

We sustain the rejection of claims 42 and 43.

*Unpatentability of Claims 44 and 47
over Hiroshi, Chaves, and Cantolino*

Appellants argue claims 44 and 47 together. Appeal Br. 10–11. We select claim 44 as representative. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2015).

Claim 44 depends from claim 28 and adds the limitation: “wherein the channel closure is disposed in front of the siphon in a direction of the flow of condensed water.” Claims App. Claim 28, in turn, depends from

claim 27 and adds the limitation: “wherein the defrost water channel is a siphon.” *Id.* The Examiner relies on Cantolino as disclosing a channel closure disposed in front of a siphon as claimed. Final Action 5.

Appellants argue that the feature relied upon by the Examiner is disposed downstream, not upstream, of Cantolino’s treatment tablets 30, which were initially identified by the Examiner as corresponding to the claimed channel closure. Reply Br. 6. The Examiner, however, offers an alternative finding that Cantolino’s float ball 26 is disposed in front of siphon 16 in a direction of the flow of condensed water. Ans. 11. The Examiner concludes that it is obvious to apply Cantolino’s teaching regarding float ball 26 to Hiroshi. *Id.* According to the Examiner, the reasoning for doing this would have been to prevent fouling odor and bacteria. *Id.*

In reply, Appellants argue that Cantolino’s float ball arrangement is “very similar” to the trap of Chaves. Reply Br. 7. Appellants argue that Cantolino is not combinable with Chaves for essentially the same reason Appellants argued with respect to Chaves on the rejection of claim 27. *Id.*

Appellants’ position regarding Cantolino and claim 44 is belied by the arguments Appellants advanced against claim 27 regarding Chaves. With respect to claim 27, Appellants argued that Chaves taught away from the invention by disparaging the “U-shaped trap.” Appeal Br. 8. Now, when confronted with Cantolino’s U-shaped trap (siphon 16, Fig. 2), Appellants characterize Cantolino and Chaves as “very similar.”

The Examiner’s finding that Cantolino discloses a channel closure disposed in front of the siphon in the direction of the flow of condensed water is supported by a preponderance of the evidence. Ans. 11. The

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Examiner's proposed modification of Hiroshi's water soluble channel closure by disposing it in a vertical channel section upstream of a siphon is supported by sound reasoning. We sustain the rejection of claims 44 and 47.

DECISION

The decision of the Examiner to reject claims 27–31, 33, 36–40, and 42–52 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED